

## ABSTRACT OF THE DISCLOSURE

A color image halftoning apparatus and method for creating a color bilevel image from a color output device, and mask generation apparatus and method used in the color image halftoning apparatus and method are provided. The color image halftoning apparatus includes: an address generator that receives a pixel in an image intended for halftoning and generates an address corresponding to the position of the pixel in a mask memory storing mask threshold values for one color channel; a mask generator that receives a mask threshold corresponding to the address from the mask memory and generates a mask threshold value for each of a plurality of color channels; and a comparison unit that sequentially receives the mask threshold value generated for each of the plurality of color channels and the pixel value in the image intended for halftoning, compares both values, and outputs a bilevel value according to a predetermined rule.